

We Claim:

1.

1 A method of injection molding an article comprising the steps of:
2 providing a plurality of finish blocks;
3 closing said plurality of finish blocks together to form a neck-finish mold
4 cavity;
5 providing a plurality of mold bodies;
6 closing said plurality of mold bodies together to form a body mold cavity;
7 providing at least one core portion in at least one of said pluralities of
8 finish blocks and mold bodies;
9 providing at least one pocket in at least one of the other of said pluralities
10 of finish blocks and mold bodies; and
11 advancing at least said at least one core portion toward said at least one
12 pocket;
13 said at least one core portion cooperating with said at least one pocket to
14 define at least one cavity for forming at least one radially extending element of the
15 article.

2.

1 An article produced by the method set forth in claim 1.

3.

1 The method of claim 1, further comprising the step of providing said at
2 least one core portion in a fixed position on at least one of said plurality of mold bodies,

3 wherein said step of advancing comprises advancing said plurality of mold bodies and
4 said at least one core portion in unison.

4.

1 The method of claim 1, further comprising the step of providing said at
2 least one core portion in a movable position on at least one of said plurality of mold
3 bodies, wherein said step of advancing comprises advancing said at least one core
4 portion.

5.

1 A method of injection molding a plastic preform for subsequent blow
2 molding into a container, the plastic preform having a generally longitudinal axis and a
3 radially extending element, said method comprising the steps of:

4 providing a plurality of finish blocks wherein at least one of said plurality
5 of finish blocks includes a pocket that partially defines a cavity for said radially
6 extending element of the plastic preform;

7 closing said plurality of finish blocks together to form a neck-finish mold
8 cavity;

9 providing a plurality of mold bodies wherein at least one of said plurality
10 of mold bodies includes a core portion that partially defines said cavity for the radially
11 extending element of the plastic preform;

12 closing said plurality of mold bodies together to form a body mold cavity;

13 axially advancing at least said core portion of said at least one of said
14 plurality of mold bodies toward said plurality of finish blocks, whereby said core portion
15 and said pocket cooperate to define said cavity for the radially extending element;

16 injecting a material into said body mold cavity, said neck-finish mold
17 cavity, and said cavity for the radially extending element;
18 axially retracting said at least said core portion away from said plurality
19 of finish blocks; and
20 opening said plurality of finish bodies and said plurality of mold bodies,
21 whereby the plastic preform may be removed from said plurality of mold bodies without
22 damage to the radially extending element.

6.

1 A plastic preform produced by the method set forth in claim 5.

7.

1 The method as set forth in claim 5, further comprising the step of
2 providing said core portion in a fixed position on at least one of said plurality of mold
3 bodies, wherein said step of advancing comprises advancing said plurality of mold
4 bodies and said core portion in unison.

8.

1 The method as set forth in claim 5, further comprising the step of
2 providing said core portion in a movable position on at least one of said plurality of mold
3 bodies, wherein said step of advancing comprises advancing said core portion.

9.

1 Apparatus for injection molding an article, said apparatus comprising:
2 a plurality of finish blocks that at least partially defines a neck-finish
3 mold cavity;
4 a plurality of mold bodies that at least partially defines a mold cavity and
5 that is disposed adjacent said plurality of finish blocks;
6 a core portion on at least one of said finish blocks and said mold bodies;
7 and
8 a pocket in at least one of said finish blocks and said mold bodies;
9 wherein said core portion is movable toward said pocket so that said core
10 portion and said pocket cooperate to define a cavity for injection molding a radially
11 extending element of the article.

10.

1 The apparatus as set forth in claim 9, wherein said core portion is
2 disposed in fixed position on said at least one of said pair of mold bodies, said at least
3 one of said plurality of mold bodies being movable toward said at least one of said
4 plurality of finish blocks to move said core portion into said pocket to form said cavity
5 for the radially extending element of the article, whereby said at least one of said
6 plurality of mold bodies is retractable to move said core portion out of said pocket.

11.

1 The apparatus as set forth in claim 9, wherein said core portion is
2 movably mounted to said at least one of said plurality of mold bodies for movement into

3 said pocket to form said cavity for the radially extending element, whereby said core
4 portion is retractable out of said pocket.

12.

1 Apparatus for injection molding a plastic preform for subsequent blow
2 molding into a container having a neck finish and a closure release element cantilevered
3 radially outwardly from said neck finish, said apparatus comprising:

4 a pair of preform finish blocks that, when brought together, form a mold
5 cavity for said neck finish, one of said pair of preform blocks having a pocket for
6 forming a portion of said closure release element; and

7 a pair of preform mold bodies that, when brought together, form a mold
8 cavity for the preform body, one of said pair of preform mold bodies including a core
9 portion that is movable into said pocket to form with said pocket a mold cavity for
10 injection molding said closure release element.

13.

1 The apparatus as set forth in claim 12, wherein said core portion is
2 disposed in fixed position on said one of said pair of preform mold bodies, said one of
3 said pair of preform mold bodies being movable toward said one of said pair of preform
4 finish blocks to move said core portion into said pocket to form said mold cavity for said
5 closure release element, whereby said one of said pair of preform mold bodies is
6 retractable to move said core portion out of said pocket.

14.

1 The apparatus as set forth in claim 12, wherein said core portion is
2 movably mounted to said one of said pair of preform mold bodies for movement into
3 said pocket to form said mold cavity for said closure release element, whereby said core
4 portion is retractable out of said pocket.

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